

Building A Cognitive Achievement Scale For The Skills Of Smash Hitting And Defending The Court In Volleyball For Students

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Abstract

Building a cognitive achievement scale for the skills of smash hitting and defending the court in volleyball for students

The problem of the research was that the researchers played the game and realized that when teaching skills, there is a slight neglect of preparing cognitive achievement measures and applying them to students so that there is a real assessment according to solid and correct scientific bases, which is the basis for diagnosing the level at which the student is, and the aim of the research is to build a scale For the cognitive achievement of some basic skills in volleyball for students, and the sample of the research was the students of the second stage in the College of Physical Education and Sports Sciences. Discriminatory, internal consistency, and how to measure stability by the half-segmentation method and the VCR, and then the researcher applied the scale to the sample in its initial form, and then it was applied definitively so that the students are then subjected to the methodology that the researcher followed through the electronic content and the measurement of students after the end of the presentation of the educational program used for students.

I- Introduction to research

I-1 Introduction and importance of research

The concept of cognitive achievement is one of the most widely discussed and circulated concepts in productive, knowledge and sports circles, and perhaps the most important scientific and practical circles that use this concept is the educational educational circle, as it is a material for dialogue and discussion and a field for research and in-depth studies, which certainly reflects the importance Which it occupies in the activities of educational officials, administrators and teachers, and which is dictated by the urgent need to prepare generations to be able to give and contribute and achieve social goals.

Volleyball is one of the competitive team games that has taken the lead in terms of its spread in the world, and the volleyball game depends on technical skills as an important base upon which this game is built to progress in the level of performance, so the use of interactive blended learning can play a major

role in Learn these technical skills and master the correct performance of those for them, and thus there will be an improvement in the level of performance due to the interest in the way to describe the skill and deliver the information in an accurate and detailed manner.

The importance of the research lies in the development of scientific and practical steps to prepare the cognitive achievement scale in the skills of hitting and defending the playing field in volleyball for students, and for guidance on how to raise the level of cognitive achievement in the lesson.

I-2 research problem:

The second stage is represented in the College of Physical Education and Sports Sciences, a stage of university education, and there is a study content related to the art of performing skill and learning to perform in volleyball, in terms of history, plans, basic skills and technical stages of performance. correct and in accordance with the law by having the

ability to perform according to the stages prepared for this purpose and to bring him to good performance that qualifies him to be a teacher for subsequent generations, and because researchers have played the game and realized that when teaching skills, there is a slight neglect of preparing cognitive achievement measures and applying them to students so that there is an assessment. It is real according to solid and correct scientific foundations, and it is the basis for diagnosing the level at which the student is, and it was necessary to prepare a measure of cognitive achievement in order to reveal the level of real achievement of students, especially if scientific foundations were used in formulating questions for these tests, which were based on achieving the goals of the cognitive field in The skill of striking and defending the playing field in volleyball.

1-3 Research Objectives

1- Building a scale for the cognitive achievement of some basic skills in volleyball for students

1-4 Research Areas

1- The human field: a sample of second-year students in the College of Physical Education and Sports Sciences - University of Basra for the academic year 2020-2021

2- Time domain: From 11/29/2021 to 29/6/2021

3- Spatial domain: Classrooms in the College of Physical Education and Sports Sciences - University of Basra.

2-1-1 Cognitive achievement: It is the set of cognitive experiences and skills that the student can absorb, memorize and remember when necessary, using multiple factors such as understanding, attention and repetition distributed over certain periods of time (106:7), or as he defined it. Shehata and Al-Najjar 2003: "It is all that the student acquires of knowledge, skills, attitudes, tendencies, values, ways of thinking and abilities to solve problems as a result of studying what is prescribed for them in school books, and it can be measured by the tests prepared by teachers" (4:89)

3-1 Research Methodology

In line with the nature of the research, the researcher used the experimental method in the manner of two equal groups, due to its relevance to the nature of the research problem.

3 – 2 The research community and its sample

The selection of the research sample is one of the important and basic matters affecting the progress

of the work in the research, as it depends on it to extract the measurements and results that the researcher comes out with his research, so the research sample must be an honest and true representation of the original community, and the research sample "is a number of individuals or The things that are chosen according to a specific rule or method from the statistical community that represents this community" (6:18), the researcher chose the research community in the intentional way represented by the students of the second stage of the College of Physical Education and Sports Sciences at the University of Basra for the academic year (2020-2021) Their total number is 250 students, and the research sample was chosen randomly and their number was (53) students and a percentage (21.2%) of the original community represented by the students of Division (E) who numbered 27 students for the control group and students of Division (F) of the experimental group, which numbered 26 students (3) Students were excluded from the statistical work because they are game practitioners.

3-3 Research tools: The researcher needs different data to complete his research, and he must choose the appropriate tools for collecting and processing data, whether secondary or primary. To measure the cognitive achievement in volleyball for students and it consists of 35 items in its final form.

3-4 steps of building a scale of cognitive achievement in volleyball:

(Lamia Hassan Al-Diwan and others: 2007) indicated that its use helps in increasing the achievement of the various stages and subjects of the study in the level of achievement and in emotional behavior such as feeling and respect for others, not being selfish and accepting individual differences among students in the same group (7:9) In this she emphasized (Lamia Al-Diwan and Abdul-Hussein Al-Jourani: 2014), where the learning process has become one of the most important processes that deliver knowledge and correct information to the learner, which helps to motivate him and increase his desire for research and exploration to reach knowledge, and the development of knowledge acquisition is an indispensable part. In the stages of learning the game, and the most successful teachers are the ones who noticed the importance of this aspect and planned to acquire knowledge for the learners" (10:413)

"It can be said that the general and readable goal of all those working in the field of education in the

cognitive aspect means measuring the knowledge and information that the target learner acquires from the education process as a result of his passing through an educational experience, specific scientific variables, building a scale of linear knowledge in women's football for the halls" (19:8) And he agrees with us (Mustafa Abdel Reda and others: 2021 p. 14) "Raising the level of knowledge requires the teacher to choose teaching methods and methods that are compatible with the characteristics of the students, the subject and the available capabilities, and to help students develop scientific thinking and build sound concepts" (13:9)

3-4-1 Preparing the paragraphs of the scale in its initial form:

In order to build a scale of cognitive achievement in the game of volleyball, the researcher reviewed many previous studies and research in the game of volleyball and teaching methods, as well as referring to the sources and references that show the basic steps in building the available standards in order to formulate appropriate paragraphs for each area of cognitive achievement in volleyball. Where the researcher collected (60) items for the cognitive achievement scale in its initial form distributed over four domains, namely, the history domain 15 items, the law domain 15 items, and the skills domain 30 items, "as the knowledge aspect is part of the integrated training unit system for any training program Successful aims to raise the level of the game. Knowledge is the basis of thinking and success. The basic skills of the game, how to play and how plans are drawn, must be recognized through practical and theoretical lectures that will contribute to the development of the cognitive aspect of the game for the player. His ability to search, analyze and ask about the secrets and mysteries of his game, in addition to that all of this process contributes to building the personality of the young man and increases his confidence in himself. Yes, and here the teachers have the responsibility to activate this process by continuing to measure the students' tactical knowledge and identifying the level of their tactical knowledge to reveal where the strengths and weaknesses lie in this aspect" (9:11).

3-4-2 Validity of the scale items and their analysis.

The researcher presented the initial version of the cognitive achievement scale to a group of (10) experts and specialists with experience and expertise in the field of volleyball, to ensure the validity of the paragraphs and their suitability for the field in which they were placed and to submit

the proposed amendment to the paragraphs that need to be modified or deleted. Their observations and opinions about the paragraphs of each field of the scale of cognitive achievement in volleyball, and in light of these proposals, these paragraphs were treated statistically using the percentage law. What Benjamin confirmed, "Where the researcher has the right to delete paragraphs whose percentage is less than 75%, the paragraphs whose percentage is greater than 75% remain" (2:126), as the final analysis resulted in the agreement of the experts and specialists' answers to the cognitive achievement scale to exclude (12) A paragraph and according to its fields, in the field of history, paragraphs are sequenced (49, 50), in the field of law, paragraphs are sequenced (45,43,37,35), and in the field of skills, paragraphs are sequenced (29,25,12,8,3.2), and thus the number is only The measure of cognitive achievement after being presented to experts and specialists to indicate its validity is (48) paragraphs.

3-4-3 Calculating the discriminatory power of items for the cognitive achievement scale

The goal of analyzing the scale items is to ensure their efficiency in achieving the most important principle, which is the individual differences on which the scale is based. The discriminatory power is estimated to survive the distinct items and exclude those that are not. After completing the instructions for the scale, it was applied to the discrimination sample and after the forms were collected from the sample The score for each of the scale's items was obtained, in light of which the total score for each questionnaire was calculated, and then the scores were arranged in descending order, i.e. from largest to lowest on the basis of the total score. The researcher conducted the t-test on the two groups in order to identify the difference between them. Its value is greater than the value of the level of significance (0.05) and these items are (43,41,32,26,21,17,8,3) and thus these items were excluded from the scale

3-4-4 Calculation of the internal consistency coefficient of the cognitive achievement scale

Internal consistency is the most common type in the field of physical education, as it is achieved when the ability or attribute to be measured includes multiple tests, and the sum of those sub-tests gives a picture of the test score as a whole. The availability of internal consistency for the test as a whole" (11:82), and the correlation coefficient of the paragraph's degree with the total degree of the

scale (Internal Consistency Method) was used because this method assumes that the total degree is a criterion for the validity of the scale, so the paragraph is deleted when the degree of its relationship to the total degree is low on the basis that the paragraph does not measure the phenomenon measured by the scale, and Pearson's correlation coefficient was used to extract the internal consistency of the scale's items (1:190), and after it was statistically treated, five items were deleted: Between the total score and the score of each paragraph of the scale, using the method of internal consistency increases the scale with important features, including:

- 1- It highlights the interrelationship between the paragraphs of the scale
- 2- The procedure for internal consistency is one of the aspects of building validity
- 3- The procedure for internal consistency is to extract the stability of the vertebrae
- 4- It makes the scale homogeneous so that each paragraph measures the same behavioral dimension that the entire scale measures.

The internal consistency is considered a criterion for the validity of the test because the degrees of correlation indicate that each paragraph runs in the path in which the tests run as a whole (5:46). Thus, the cognitive achievement scale in its final form consists of (35) items and is ready to be applied to the application sample of (100). Student .

3-4-5 The scientific bases of the cognitive achievement scale

3-4-5-1 Calculating the validity coefficient of the cognitive achievement scale

3-4-5-1-1 Calculating the content validity of the cognitive achievement scale

Honesty means "the ability of the tool to measure what it was set for or the attribute to be measured" (12:82). (10) specialists in the fields of (tests, measurement, teaching methods and volleyball), and with the adoption of an acceptance rate of (75%) for each paragraph, (48) paragraphs were accepted and (12) paragraphs rejected, and the first type of honesty was achieved.

3-4-5-2 Calculation of the stability coefficient of the cognitive achievement scale

In order to ensure the stability of the cognitive achievement scale, the researcher relied on the method of split-half to extract it.

3-4-5-2-1 Half-Segmentation Method:

The estimation of stability in this way is done by dividing the paragraphs of the scale into two parts, then calculating the simple correlation coefficient between these two sections, where the stability was carried out on a sample of (30) students, who were randomly selected from the construction sample after deleting the paragraphs that fell within the procedures Discrimination and consistency (construction validity), and with this procedure, (35) items were kept, which were divided into two parts. That showed the degree of correlation between the two halves (0.078) and that this correlation represents the internal consistency of half of the test, not the whole test, and to correct this requires the use of the (Spearman-Brown) equation.

3-4-5-3 Calculation of the objectivity coefficient of the cognitive achievement scale

Since the objectivity coefficient depends mainly on moving away from personal opinions in the evaluation process, the scale resolved this issue by presenting the scale's paragraphs to the (10) experts, in order to show agreement on the validity of the correction key and answers, which gives an assessment of each answer based on a set of answers From (multiple choice), so the evaluation process was objective and scientific, far from personal whims in the evaluation, and thus the objectivity factor of this scale is achieved.

3-4-6 The initial application of the scale:

The researcher made his initial application of the scale on Sunday (11/4/2021) on a random sample similar to the research sample of the second stage students, numbering (10) students, from Division (A), which was carried out with the presence of The assistant staff The objective of the reconnaissance experiment was as follows:

- 1- Knowing the appropriateness of the paragraphs of the scale with the research sample, in addition to choosing the appropriate time to carry out the test

3-4-6-1 The main application of the scale The main application of the scale was carried out for the members of the two control groups of students of the second stage in the College of Physical Education and Sports Sciences - University of Basra, which numbered (50) students, and the tests were conducted on Monday 12/4/2021 for the variable The cognitive achievement, where the experimental group was tested at 8:30 am, and the control group at 10:30 am, and in one of the college classrooms.

3-4-7 Description of the scale in its final form and its correction:

After the requirements for building a scale of cognitive achievement in volleyball for students were made, and the scale settled in its final form on (35) paragraphs, all the paragraphs of the scale were formulated positively distributed into three axes: the skills axis, the history axis and the law axis.

3-5 Statistical means

The data were treated statistically through the use of the statistical portfolio program (20SPSS ver.) through the use of multiple applications of the program.

5-1 Conclusions: In light of the results of the research, the researcher records the following conclusions:

1 - The cognitive achievement scale prepared by the researcher is able to measure students' information in the basic skills of the second stage in volleyball.

5-2 Recommendations: Among the most important recommendations recommended by the researcher are the following:-

1- Using scientific foundations and modern means in formulating and writing questions to achieve educational and educational goals on the other hand.
2 - Using the current scale to identify the cognitive achievement in volleyball for students of the College of Physical Education and Sports Sciences.

(Sources)

1. Bassem Nuzha Al-Samarrai and Tariq Al-Baldawi, Building a Scale of Attitudes Toward the Teaching Profession. The Arab Journal of Educational Research. No. 57, No. 20, 1987, pp. 90-101.
2. Benjamin and others: Assessment of assembly and formative education (translated by Muhammad Amin and others), Cairo, 1983, p. 126.
3. Dr. Lamia Hassan Al-Diwan and others: Building a Tactical Knowledge Scale for Women's Futsal,

Journal of Physical Education Studies and Research, Volume, No. 44, 2015, pp. 11-20

4. Zainab Shehata, and Hassan Al-Najjar, Dictionary of Educational and Psychological Terms, 1st Edition, Egyptian and Lebanese House, Cairo, Egypt, 2003, p. 89.

5. Abdul Rahman Al-Esawy: Measurement and Experimentation in Psychology and Education. University Knowledge House, 1971, p. 46.

6. Ali Al-Fartousi: Principles of Statistical Methods in Physical Education, 2nd Edition, Baghdad, Al-Muhaymin for printing and distribution, 2007, p. 18.

7. Fakher Aqel: A Dictionary of Psychology, 2nd Edition, Beirut, Dar Al-Malayoun for Publishing and Distribution, 1971, p. 106

8. Lamia Hassan Al-Diwan and others: Building a scale for tactical knowledge of women's football for halls, Journal of Physical Education Studies and Research, Vol., No. 44, 2015

9. Lamia Hassan Al-Diwan and others: The effect of using the cooperative teaching method in developing the accuracy of the skill of serving from the top in volleyball, Journal of Physical Education Studies and Research, Vol./No. 21, 2007, p. 7

10. Lamia Hassan Muhammad and Abdul-Hussein Mohsen Al-Jourani: Designing a Scale for Cognitive Acquisition of Air Rifle Shooting, Journal of Physical Education Studies and Research, Issue (39), 2014, pg. 413.

11. Muhammad Nima Hassan: Sports optimism and pessimism and their relationship to the achievement of sports identity and achievement among athletics players, PhD thesis, Babylon University, College of Physical Education, 2008., p. 82.

12- Mustafa Bahi and Imran Sabry: Tests and Measures in Physical Education, 1st Edition, Anglo-Egyptian Library, Cairo, 2007, p. 82.

13. Mustafa Abdel Reda Kazem and others: The effectiveness of the constructivist learning model in raising the level of cognitive achievement in swimming for first-year students, Journal of Physical Education Studies and Research, Volume 0, Issue (69), 2021.

(Scale of cognitive achievement in volleyball (in its final form				
paragraphs				T
3	2	1	Skills Hub	
relaxed	loose stiffness	jerky	When preparing to perform the crushing beating is the body?	1
five kinds	six	four kinds	The types of crushing beating are (?) types	2
No physical ability required	five kinds of kinds	high physical capacity	Preparing for the smash stage requires physical ability (?)	3
far apart	Average physical ability No physical ability required	back-to-back	The arms are at the moment of the crushing strike	4
backslash	Adjoined to each other, far apart	straight	Is the trunk during the performance of the crushing beating?	5
five stages	leaning forward	two stages	The kinetic performance of the blocking wall is divided into (?) stages?	6
2 pm	three stages	15:00	Is the player standing at a distance (?) from the net?	7
smaller than shoulders	0.5m	bigger than shoulders	Is the leg opening when performing the wall skill?	8
perpendicular to the ground	shoulder width	leaning forward	Is the stem(?) in the Brick skill?	9
Belt	backslash	the chest	The hands are in the stage of preparation at the level of?	10
six kinds	hip	two kinds	The types of wall blocks are...	11
three kinds	three kinds	five kinds	The types of stadium defense are... types?	12
elongated and not parallel to the ground	two kinds	perpendicular to the ground	Be the trunk in the defense of the field..	13
hitter	Not stretched and parallel to the ground	The ball, the player and the wall	be considering defense on the field towards?	14
There is a bend	resonance wall	Not bent from the attachment	Arms in the defense of the stadium?	15

The intensity of the crushing beating	Flexion according to the direction of the ball	ball trajectory	The movement of the feet in defense of the stadium be proportional to?	16
3	2	1	(the focus of the law)	
2.43 M	2.35 m	2.16 m	The height of the legal network for men?	17
90 cm	80 cm	1 meter	The height of the antenna above the net is ?	18
The ball is inside the court	No offense	legal violation	Touching the net during the crushing beating is considered?	19
The ball is inside the court	No offense	Infraction	Any touching the net while performing the blocking wall, whether with the body or clothing?	20
twice	four times	three times	May the blocking wall touch the ball?	21
Earth	the ball	All parts of the network	The blocking wall is not entitled to touch?	22
with one finger	With the fingers of one hand	in one leg	The law does not punish the defender of the stadium b?	23
pitch size	center error	ball height	Should the defender take care of the field?	24
flat	folded	open	The defender of the field is not entitled to play with one arm unless the hand is ..?	25
3	2		(the centerpiece of history)	
Tony Blair	William Maughan	John Kerry	Volleyball was discovered by:	26
1945	1895	1900	The birth and emergence of volleyball in the year?	27
United States of America	Brazil	Britain	The first country to discover and play volleyball is?	28
Young Men's Christian Association	Athletes Association	Society of Engineers	One of the associations transferred the game of volleyball to the world and it is	29
George	Thomas	Halito	Who is the character that modified the playing and became the ball played only in the air?	30
1947	1946	1945	The International Volleyball Federation was founded in ...?	31
1960	1958	1959	Iraq joined the International Volleyball Federation year?	32
1975	1980	1976	Founded the Asian Volleyball Federation year?	33

1950	1940	1930	Volleyball was entered in Iraq a year?	34
1923	1935	1925	Volleyball entered Africa in a year?	35